

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) An ink for ink-jet recording containing an insoluble dye, a humectant, a penetrant, water, and an amphiphilic star block polymer comprising a core and arms, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m,

wherein each of said arms has a hydrophobic segment and a hydrophilic segment,

[[and]]

the hydrophilic segment is located at the end of the arm farthest from the core, and

the hydrophilic segment is obtained by hydrolyzing vinyl ether with ester side

chains.

2. (original) The ink of Claim 1, wherein the viscosity at 25°C is in a range of 1 to 10 mPa • s.

3. (currently amended) An ink cartridge including ink for ink-jet recording, the ink containing an insoluble dye, a humectant, a penetrant, water, and an amphiphilic star block polymer comprising a core and arms, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m,

wherein each of said arms has a hydrophobic segment and a hydrophilic segment,

[[and]]

the hydrophilic segment is located at the end of the arm farthest from the core, and

the hydrophilic segment is obtained by hydrolyzing vinyl ether with ester side

chains.

4. (currently amended) A recording apparatus including ink for ink-jet recording, the ink containing an insoluble dye, a humectant, a penetrant, water, and an amphiphilic star block polymer comprising a core and arms, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m,

wherein each of said arms has a hydrophobic segment and a hydrophilic segment,

[[and]]

the hydrophilic segment is located at the end of the arm farthest from the core[[:]]

the hydrophilic segment is obtained by hydrolyzing vinyl ether with ester side

chains, and

~~wherein~~ recording is performed by jetting the ink onto a recording medium.

5. (currently amended) An ink for ink-jet recording containing an insoluble dye, a humectant, a penetrant, water, and an amphiphilic heteroarm star polymer, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m,

wherein the amphiphilic heteroarm star polymer has a hydrophobic segment and a hydrophilic segment,

the hydrophilic segment is obtained by hydrolyzing vinyl ether with ester side chains, and

the ~~hydrophilic segment~~ star polymer disperses the insoluble dye in an ink composition.

6. (original) The ink of Claim 5, wherein the viscosity at 25°C is in a range of 1 to 10 mPa • s.

7. (currently amended) An ink cartridge including ink for ink-jet recording, the ink containing an insoluble dye, a humectant, a penetrant, water, and an amphiphilic heteroarm star polymer, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m,

wherein the amphiphilic heteroarm star polymer has a hydrophobic segment and a hydrophilic segment,

the hydrophilic segment is obtained by hydrolyzing vinyl ether with ester side chains, and the ~~hydrophilic segment~~ star polymer disperses the insoluble dye in an ink composition.

8. (currently amended) A recording apparatus including ink for ink-jet recording, the ink containing an insoluble dye, a humectant, a penetrant, water, and an amphiphilic heteroarm star polymer, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m,

wherein recording is performed by jetting the ink onto a recording medium,
the amphiphilic heteroarm star polymer has a hydrophobic segment and a
hydrophilic segment,
the hydrophilic segment is obtained by hydrolyzing vinyl ether with ester side
chains, and
the ~~hydrophilic segment~~ star polymer disperses the insoluble dye in an ink
composition.

9. (currently amended) An ink for ink-jet recording containing an insoluble dye,
water, a surface-active material, and an additive composed of a hydrophobic segment that
attaches to said insoluble dye and a hydrophilic segment located outside of said
hydrophobic segment, the surface tension of the ink at 25°C being in a range of 20 to 50
mN/m,

Wherein the hydrophilic segment is obtained by hydrolyzing vinyl ether with ester
side chains.